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Hamid Namaky

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EXAMINER

TRIEU, VAN THANH

ART UNIT

PAPER NUMBER

2636

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,151

Applicant(s)

NAMAKY ET AL.

Examiner

Van T Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/3/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: the abbreviation "OBD" should be spell out. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 4, 10-12, 15-17, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Hein et al** [US 6,441,510].

Regarding claim 1, the claimed an automotive device for displaying vehicle parameters that are transmitted via a vehicle data bus, comprising: a display (the vehicle related data are transmitted to the display cluster subcomponent 12 is arranged to receive a set of gauges/electronic displays 14, via the flat flexible cable FFC 16 including ITS data bus IDB link 60, see Figs. 1 and 2, col. 3, lines 20-30, col. 4, lines 35-52 and col. 5, lines 10-14); and the connector for releasably connecting to a vehicle data bus (the plug-in and releasable connectors 30, see Fig. 1, col. 2, lines 42-38 and col. 3, lines 20-30); and the processor in circuit communication with the display and the connector (the micro-controller 100 is communicated with the display cluster subcomponent 12 and

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connectors 30, see Fig. 3, col. 5, lines 3-15); and the mounting device secured to the display, wherein the mounting device is configured to facilitate securing the display to a vehicle (the display cluster subcomponent 12 is mounted into the instrument panel 10, see Fig. 1).

Regarding claim 2, all the claimed subject matters are cited in respect to claim 1 above, and including the communication circuit (the local multiplexing link circuit 212, see Fig. 5, col. 4, lines 44-46).

Regarding claim 4, all the claimed subject matters are cited in respect to claim 1 above, and including the analog gauges 14, see Fig. 1, col. 3, lines 23-24.

Regarding claim 10, all the claimed subject matters are cited in respect to claim 1 above, and including the tachometer display, see Fig. 1, col. 4, line 12.

Regarding claim 11, all the claimed subject matters are cited in respect to claim 1 above, and including the oil pressure, see Fig. 1, col. 4, line 12.

Regarding claim 12, all the claimed subject matters are cited in respect to claim 1 above, and including the horsepower (the speedometer 118, see Figs. 1 and 3, col. 4, line 11 and col. 5, line 12).

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Regarding claim 15, all the claimed subject matters are cited in respect to claim 1 above, and including the temperature parameter 116, see Figs. 1 and 3, col. 4, line 11 and col. 5, line 12.

Regarding claim 16, the method claimed limitations are met by the subject matters cited in respect to apparatus claim 1 above.

Regarding claim 17, all the claimed subject matters are cited in respect to claims 2 and 16 above.

Regarding claim 19, all the claimed subject matters are cited in respect to claim 16 above, and including selecting one or more vehicle parameters to be displayed on the one or more instruments (the smart switch units 18, see Figs. 3-5, col. 2, lines 51-64 and col. 4, lines 35-63).

Regarding claim 20, all the claimed subject matters are cited in respect to claim 16 above, and including the vehicle comprises mounting the one or more instrument outside of factory installed instrument panel in the vehicle (the after market products can be mounted and connected into an existing electrical system of the vehicle, see col. 4, lines 48-51).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 3, 7, 18, 21-24, 28-30, 32, 33 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hein et al** [US 6,441,510] in view of **Kuhn et al** [US 6,614,385].

Regarding claim 3, **Hein et al** fails to disclose the connector comprises an OBD II connector. However, **Hein et al** teaches that the IDB link 60 is used for each module connects to FFC cable 16 using an appropriately configured quick-connect type connector 30 and/or universal pin connector 32, which is also selectively configured to allow a particular module to be connected on the type and features of a selected particular cluster module, see Fig. 1, col. 3, lines 30-41 and 56-67 and col. 4, lines 1-19.

Kuhn et al suggests that a vehicle 10 is equipped with an intelligent vehicle data bus IVDB and a vehicle on-board diagnostic OBD system 42 connected to a digital signal processor 22 via OBD II connector 44 or an IVDB to adjust sensitive and to read engine RPM data and functions as a tachometer, shift points and vehicle data speed to be displayed on an alphanumeric or graphic display 38, see Fig. 1, col. 2, lines 3-31 and col. 4, lines 1-13. Therefore, it would have been obvious to one skill in the art at the time the invention was made to select the OBD module with OBD II connector of **Kuhn et al** to connect with the vehicle cluster system of **Hein et al** in order to provide onboard diagnostic test being approved by SAE to display any malfunctions founds and suggests possible solutions to the problems to prevent of vehicle break-down or tow, which also provides a great valuable information on the condition of a used vehicle.

Regarding claim 7, **Hein et al** fails to disclose the display comprises a graphical display. However, **Hein et al** teaches that the generic instrument gauge/display cluster subcomponent 12 arranged to receive one or more separate modular gauges/electronic displays 14, see Fig. 1, col. 3, lines 20-24 and col. 5, lines 10-15. **Kuhn et al** suggests that an alphanumeric or graphic display 38 for displaying of vehicle RPM data and functions as a tachometer, shift points and vehicle data speed, see Fig. 1, col. 4, lines 36-42 and col. 5, lines 32-57. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the graphical display of **Kuhn et al** for the electronic display of **Hein et al** since the electronic display is available as after

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market for providing graphical information to be easily recognized by the vehicle driver/operator.

Regarding claim 18, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 3 and 17 above.

Regarding claim 21, the method claimed limitations are met by the subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to apparatus claims 1, 3 and 20 above, and including the diagnostic circuitry, (the onboard diagnostic OBD II).

Regarding claim 22, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 2 and 21 above.

Regarding claim 23, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 3 and 21 above.

Regarding claim 24, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 4 and 21 above.

Regarding claim 28, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 7 and 21 above.

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Regarding claim 29, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 10 and 21 above.

Regarding claim 30, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 12 and 21 above.

Regarding claim 32, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 11 and 21 above.

Regarding claim 33, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 12 and 21 above.

Regarding claim 36, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 15 and 21 above.

Regarding claim 37, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 20 and 21 above.

Regarding claim 38, all the claimed subject matters are discussed between **Hein et al** and **Kuhn et al** in respect to claims 2 and 37 above.

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4. Claims 5, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hein et al** [US 6,441,510] in view of **Beckert et al** [US 6,175,789].

Regarding claim 5, **Hein et al** fails to disclose the D/A conversion circuit in circuit communication with the processor for driving the one or more analog gauges.

However, **Hein et al** teaches that the multi-controller 100 receives analog/digital signals from various input devices 102, and then drives the inputted signals to the plurality of gauges 103 for displaying to a vehicle driver/operator, see Fig. 3, col. 5, lines 3-14.

Beckert et al suggests that a vehicle computer system 22 runs multiple applications on the operating system including both vehicle related applications such as vehicle security application, vehicle diagnostic application, communication applications, etc. The computer 22 is connected to a support module 62 via a multi-bit-bus 66 or USB 70. The support module 62 includes audio signal processor 96, AM/FM tuner model 98, GPS 100 and one or more audio analog-to-digital converters and digital-to-analog converters or CODECS 102, see Figs. 1-3, 6 and 7, col. 2, lines 43-49, col. 5, lines 16-20 and col. 6, lines 6-20. Therefore, it would have been obvious to one skill in the art at the time the invention was made to implement the CODECS of **Beckert et al** to the multi-controller of **Hein et al** for converting of both analog and digital signals received from various inputs since the vehicle data communications includes transmission of analog and digital data.

Regarding claim 25, all the claimed subject matters are discussed between **Hein et al** and **Beckert et al** in respect to claims 5 and 21 above.

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Regarding claim 26, all the claimed subject matters are discussed between **Hein et al** and **Beckert et al** in respect to claim 25 above.

5. Claims 6, 8, 9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hein et al** [US 6,441,510] in view of **Kubota et al** [US 6,401,029].

Regarding claim 6, **Hein et al** fails to disclose the display comprises a digital display. However, **Hein et al** teaches that the generic instrument gauge/display cluster subcomponent 12 arranged to receive one or more separate modular gauges/electronic displays 14, see Fig. 1, col. 3, lines 20-24 and col. 5, lines 10-15. **Kubota et al** suggests that a display 27 in the vehicle interior may be a CRT display, a LCD, a plasma display or a hologram device for displaying of vehicle condition, time, date, position and environmental condition surrounding the vehicle, see Figs. 1, 4 and 5, col. 5, lines 20-32 and col. 8 lines 10-13. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the LCD display of **Kubota et al** for the electronic display of **Hein et al** since the LCD is a digital device to provide a greater picture and easily perceive by the vehicle driver/operator.

Regarding claim 8, all the claimed subject matters are discussed between **Hein et al** and **Kubota et al** in respect to claims 1 and 6 above, and including the LCD display.

Regarding claim 9, **Hein et al** fails to disclose display comprises a plasma display.

However, **Hein et al** teaches that the generic instrument gauge/display cluster subcomponent 12 arranged to receive one or more separate modular gauges/electronic displays 14, see Fig. 1, col. 3, lines 20-24 and col. 5, lines 10-15. **Kubota et al** suggests that a display 27 in the vehicle interior may be a CRT display, a LCD, a plasma display or a hologram device for displaying of vehicle condition, time, date, position and environmental condition surrounding the vehicle, see Figs. 1, 4 and 5, col. 5, lines 20-32 and col. 8 lines 10-13. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the plasma display of **Kubota et al** for the electronic display of **Hein et al** since the plasma is a thinner display for mounted to any constrain space, such as the vehicle dashboard.

Regarding claim 27, all the claimed subject matters are discussed between **Hein et al** and **Kubota et al** in respect to claims 6 and 21 above.

6. Claims 13, 14, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hein et al** [US 6,441,510] in view of **Decker et al** [US 6,601,442].

Regarding claim 13, **Hein et al** fails to disclose the displaying a torque parameter.

However, **Hein et al** teaches that the multi-controller 100 receives analog/digital signals from various input devices 102, and then drives the inputted signals to the plurality of gauges/electronic displays 14 for displaying to a vehicle driver/operator via a speedometer 118, the fuel gauge 120, see Fig. 3, col. 5, lines 3-14. **Decker et al**

suggests that a system and method for monitoring engine performance utilizes a monitoring micro-controller 12 to receive data indicative of the current operating conditions of the engine/vehicle. The LCD display 34 displays of torque data point, see Figs. 1, 3 and 4, col. 2, lines 52-67, col. 3, lines 1-22, col. 5, lines 60-67 and col. 6, lines 1-52. Therefore, it would have been obvious to one skill in the art at the time the invention was made to implement the displaying of monitored torque of **Decker et al** to the multi-controller of **Hein et al** for generating an accurate profile of the duty cycle for an engine/vehicle combination that can be used to monitor engine performance and saving fuel.

Regarding claim 14, **Hein et al** fails to disclose the displaying fuel economy parameter. However, **Hein et al** teaches that the multi-controller 100 receives analog/digital signals from various input devices 102, and then drives the inputted signals to the plurality of gauges/electronic displays 14 for displaying to a vehicle driver/operator via a speedometer 118, the fuel gauge 120, see Fig. 3, col. 5, lines 3-14. **Decker et al** suggests that a system and method for monitoring engine performance utilizes a monitoring micro-controller 12 to receive data indicative of the current operating conditions of the engine/vehicle. The LCD display 34 displays the average fuel consumption or fuel economy throughout the duty cycle, see Figs. 1, 4, 5 and 7, col. 2, lines 52-65, col. 4, lines 9-21, col. 10, lines 58-67 and col. 11, lines 1-27. Therefore, it would have been obvious to one skill in the art at the time the invention was made to implement the displaying of average fuel consumption of **Decker et al** to the multi-

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controller of **Hein et al** for generating an accurate profile of the duty cycle for an engine/vehicle combination that can be used to monitor fuel consumption for saving fuel.

Regarding claim 34, all the claimed subject matters are discussed between **Hein et al** and **Decker et al** in respect to claims 13 and 21 above.

Regarding claim 35, all the claimed subject matters are discussed between **Hein et al** and **Decker et al** in respect to claims 14 and 21 above.

7. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hein et al** [US 6,441,510] in view of **Hayashi et al** [US 6,781,512].

Regarding claim 31, **Hein et al** fails to disclose the display an indication to the driver to shift gears. However, **Hein et al** teaches that the multi-controller 100 receives analog/digital signals from various input devices 102, and then drives the inputted signals to the plurality of gauges/electronic displays 14 for displaying to a vehicle driver/operator via a speedometer 118, the fuel gauge 120, see Fig. 3, col. 5, lines 3-14. **Hayashi et al** suggests that a controller 307 is coupled to a multiple RPM display 311 and gear shift display 313. The display can be of any suitable type such as a CRT screen, an LED screen, a LCD screen, an analog or digital meter or gauge, see Figs. 1-4, col. 2, lines 29-67, col. 3, lines 1-64, col. 4, lines 35-67 and col. 6, lines 14-42. Therefore, it would have been obvious to one skill in the art at the time the invention

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was made to implement the displaying of shift gear of **Bidner et al** to the multi-controller of **Hein et al** for the driver changing gear smoother and to save the fuel.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hein et al discloses a configurable instrument panel design can be configured for a specific vehicle contents. [US 6,511,342]

Obradovich et al discloses a multimedia information and control system for use in an automobile, at least one interface is employed, which enables a user to access information concerning the automobile and control vehicle functions in an efficient manner. [US 6,587,759]

9. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (571) 272-2972. The examiner can normally be reached on Mon-Fri from 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass** can be reached on (571) 272-2981.



Van Trieu
Primary Examiner
Date: 3/8/05